

## Claims (Amended)

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2 1. (currently amended) A method for making a laminate structure comprised of  
3 two sheets of base metals comprising the steps of:  
4 (a) presenting a first sheet of a base metal having a coated surface with a  
5 first alloyable metal deposited thereon, said base metal and said first  
6 alloyable metal each having a melting point;  
7 (b) presenting a second sheet of a base metal having a coated surface with  
8 said first alloyable metal deposited thereon, said base metal and said  
9 second alloyable metal each having a melting point;  
10 (c) placing a sheet of a second alloyable metal between said coated surface  
11 of said first and second sheets of base metal to form an unconsolidated  
12 structure; then  
13 (d) applying a first pressure to said first and second sheets of base metal to  
14 compress said sheet of second alloyable metal disposed therebetween;  
15 (e) heating the compressed structure to a phase transition temperature that  
16 is below said melting points of said base metal and said first and  
17 second alloyable metals;  
18 (f) maintaining the compressed structure at the phase transition  
19 temperature to form a laminate structure; then  
20 (g) cooling the laminate structure.  
21 2. (currently amended) A method for making a metallic bond between two or  
22 more dissimilar metals comprising the steps of:

- 1 (a) presenting a first base metal member having a coated surface with a  
2 first alloyable metal deposited thereon, said first base metal and said  
3 first alloyable metal having respective melting points;
- 4 (b) presenting a second base metal member that comprises a second base  
5 metal that is different than said first base metal, said second base metal  
6 member having a coated surface with said first alloyable metal  
7 deposited thereon, said second base metal having a melting point;
- 8 (c) placing a sheet of a second alloyable metal between said coated surface  
9 of said first and second base metal members to form an unconsolidated  
10 structure; then
- 11 (d) applying a first pressure to said first and second base metal members to  
12 compress said sheet of second alloyable metal disposed therebetween;
- 13 (e) heating the compressed structure to a phase transition temperature,  
14 wherein said phase transition temperature is less than said melting  
15 point of said first and second base metals and said alloyable metal;
- 16 (f) maintaining the compressed structure at the phase transition  
17 temperature to form an alloy comprising said first and second alloyable  
18 metals between said first and second base metal members; then
- 19 (g) cooling the compressed structure, said alloy thereafter forming a  
20 metallic bond between said first and second base metal members.
- 21 3. (currently amended) A method for making a metallic bond between two  
22 dissimilar metals comprising the steps of:

- 1 (a) presenting a first base metal member having a melting point and  
2 coated surface with a first alloyable metal having a melting point  
3 deposited thereon;
- 4 (b) presenting a second base metal member that comprises a second base  
5 metal that is different than said first base metal, said second base metal  
6 being comprised of an alloyable metal and having a melting point;
- 7 (c) placing the said coated surface of said first base metal in contact with  
8 said second base metal to form an unconsolidated structure; then
- 9 (d) forming a compressed structure by applying a first pressure to said first  
10 and second base metal members to ensure contact between the  
11 alloyable metal constituents;
- 12 (e) heating the compressed structure to a phase transition temperature that  
13 is less than said melting point of said first base metal and said second  
14 base metal;
- 15 (f) maintaining the compressed structure at the phase transition  
16 temperature to form an alloy comprising said first and second alloyable  
17 metals at the interface between said first and second base metal  
18 members; then
- 19 (g) cooling the compressed structure, said alloy thereafter forming a  
20 metallic bond between said first and second base metal members.
- 21 4. (original) The method for making a laminate structure comprised of two  
22 sheets of base metals in accordance with Claim 1 wherein said first and

1           second base metals are selected from the group consisting of Fe, Steel,  
2           Stainless Steel, Ni, Ti, Al, Mg, Cu, Au, Ag, Pt, Pd, W, Sn, Zn, In, Pb and  
3           alloys thereof.  
4           5. (original) The method for making a laminate structure comprised of two sheets  
5           of base metals in accordance with Claim 2 wherein said first and second base  
6           metals are selected from the group consisting of Iron and Iron Alloys, Steel  
7           Alloys, Stainless Steel Alloys, Nickel and Ni Alloys, Ti and Ti Alloys, Al and Al  
8           Alloys, Mg and Mg Alloys, Cu and Cu Alloys, Au, Ag, Pt, Pd, W, Sn, Zn, In, Pb  
9           and alloys thereof.